

OBJECT	○	○	□	△	○	○	△
OP-CODE	000	001	010	011	100	101	110

GEOMETRIC LAYOUT OF DEVICE FOR N = 4

FIG. 1

BEST AVAILABLE COPY

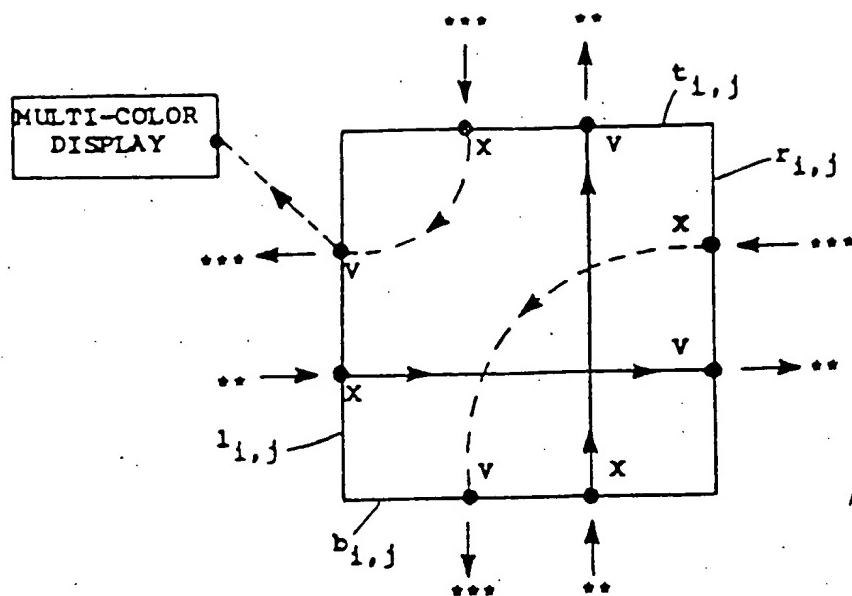


FIG. 2a

SWITCH $w_{i,j}$: ON ("1")

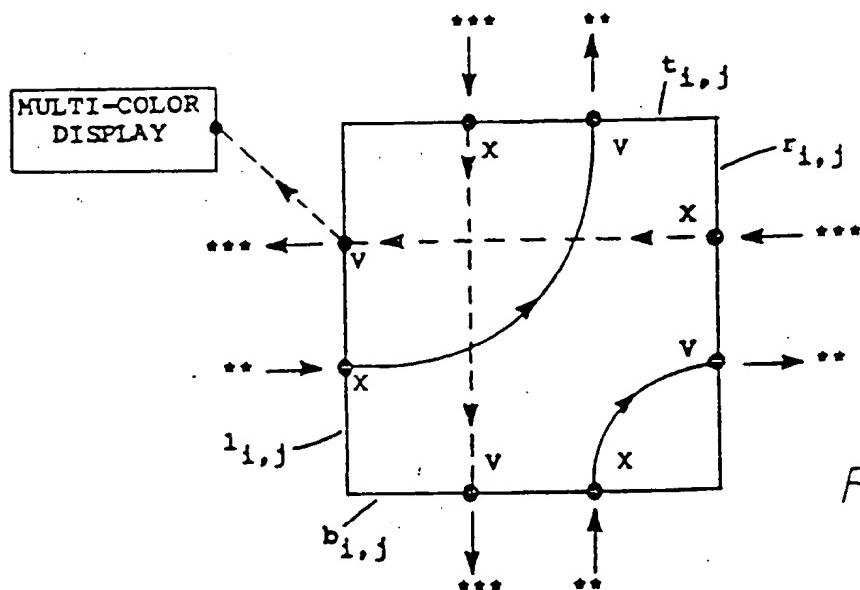
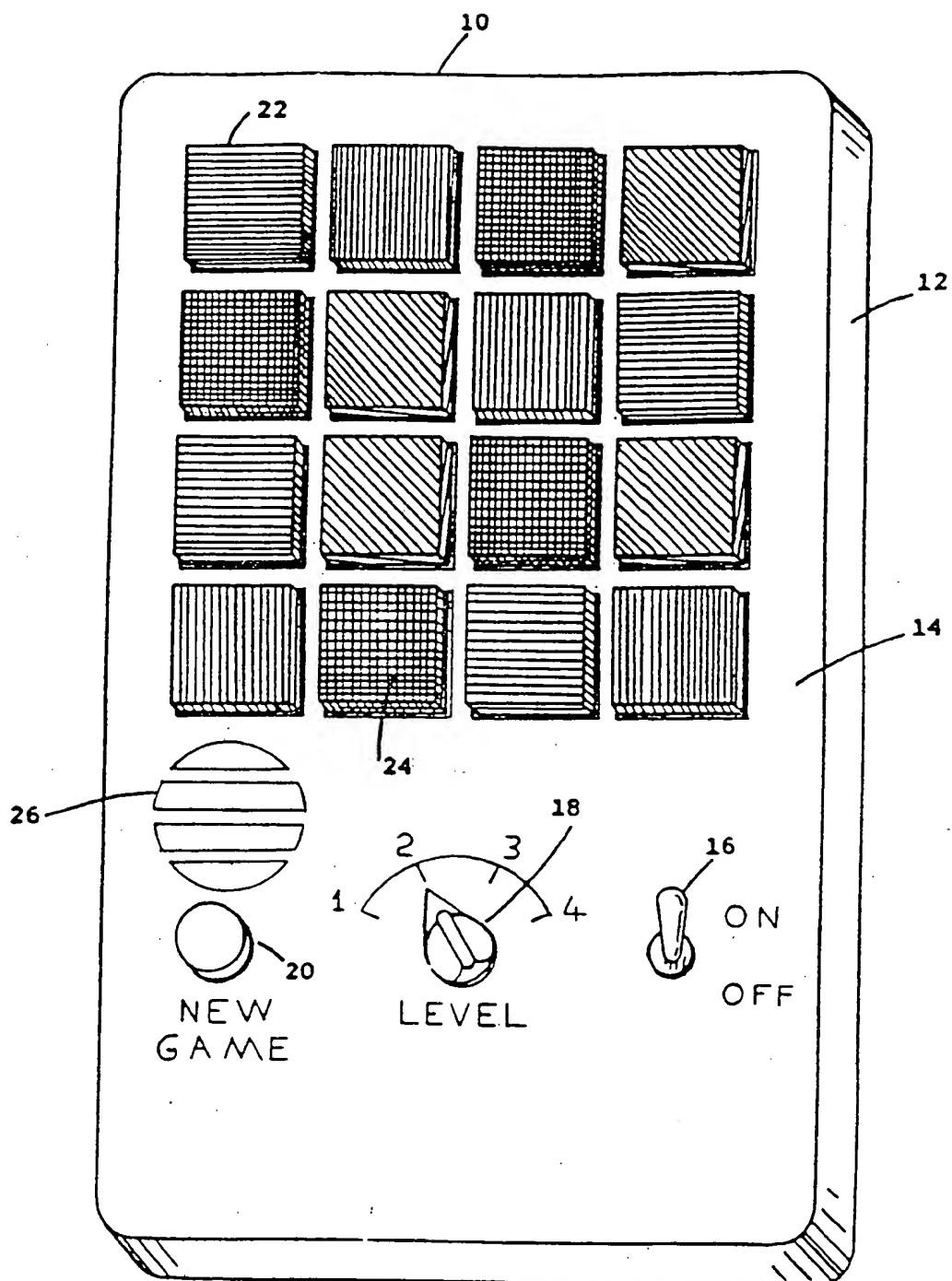


FIG. 2b

SWITCH $w_{i,j}$: OFF ("0")

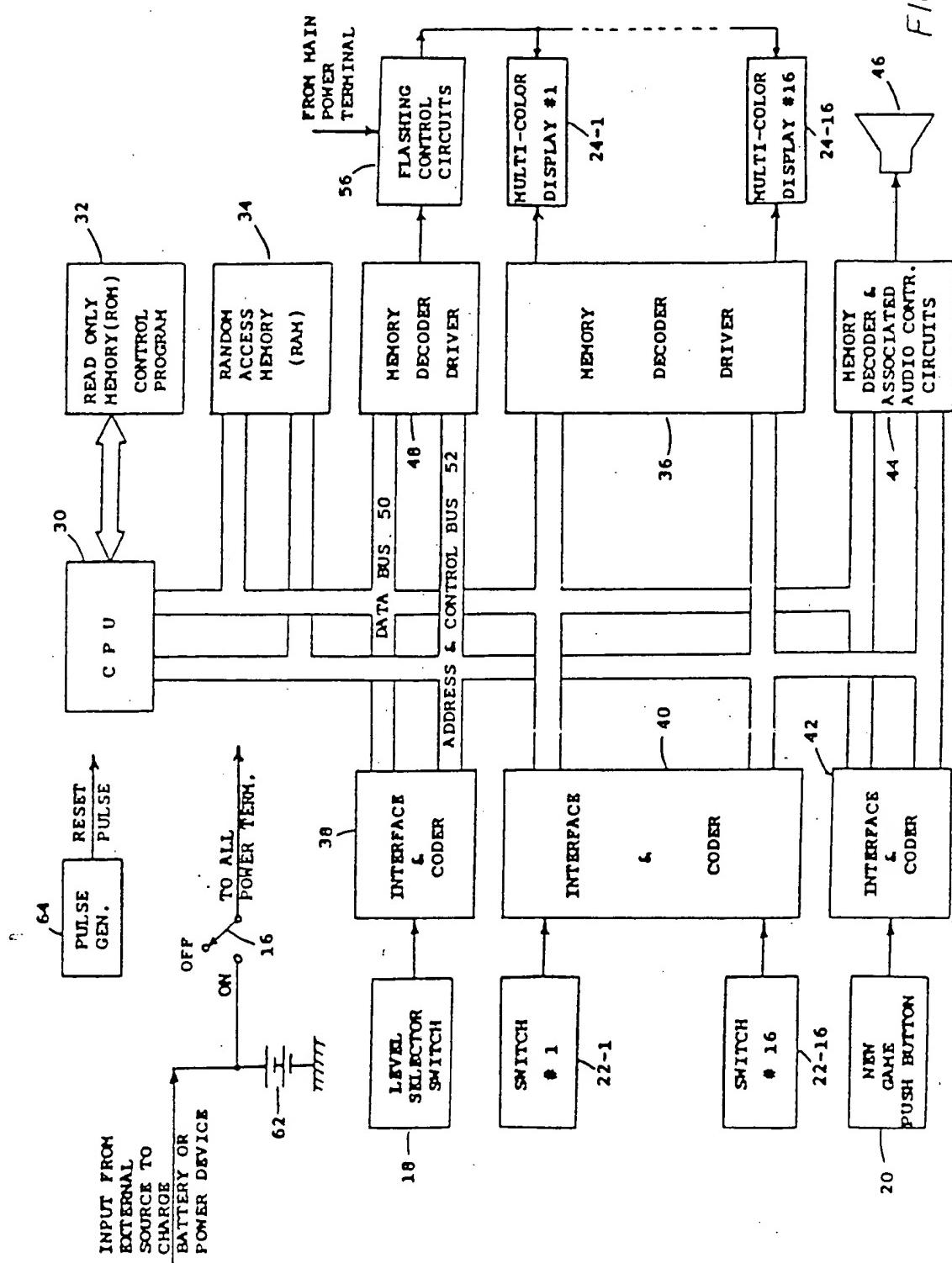
LEGEND:
 ** OP-CODE
 *** COLOR CODE

ROUTING SQUARE $S_{i,j}$



HAND HELD LOGIC GAME DEVICE

FIG. 3



F/G. 4

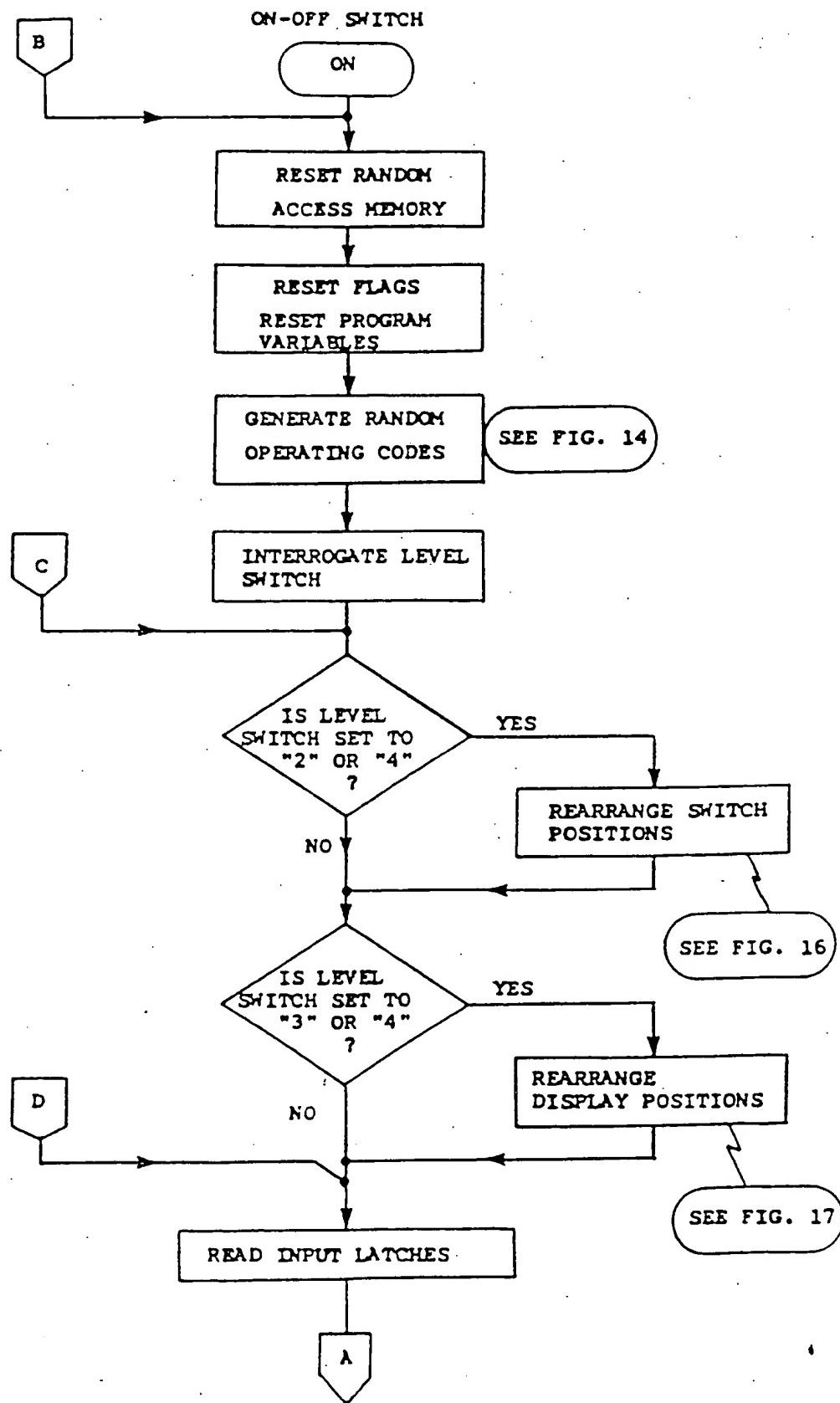


FIG. 5

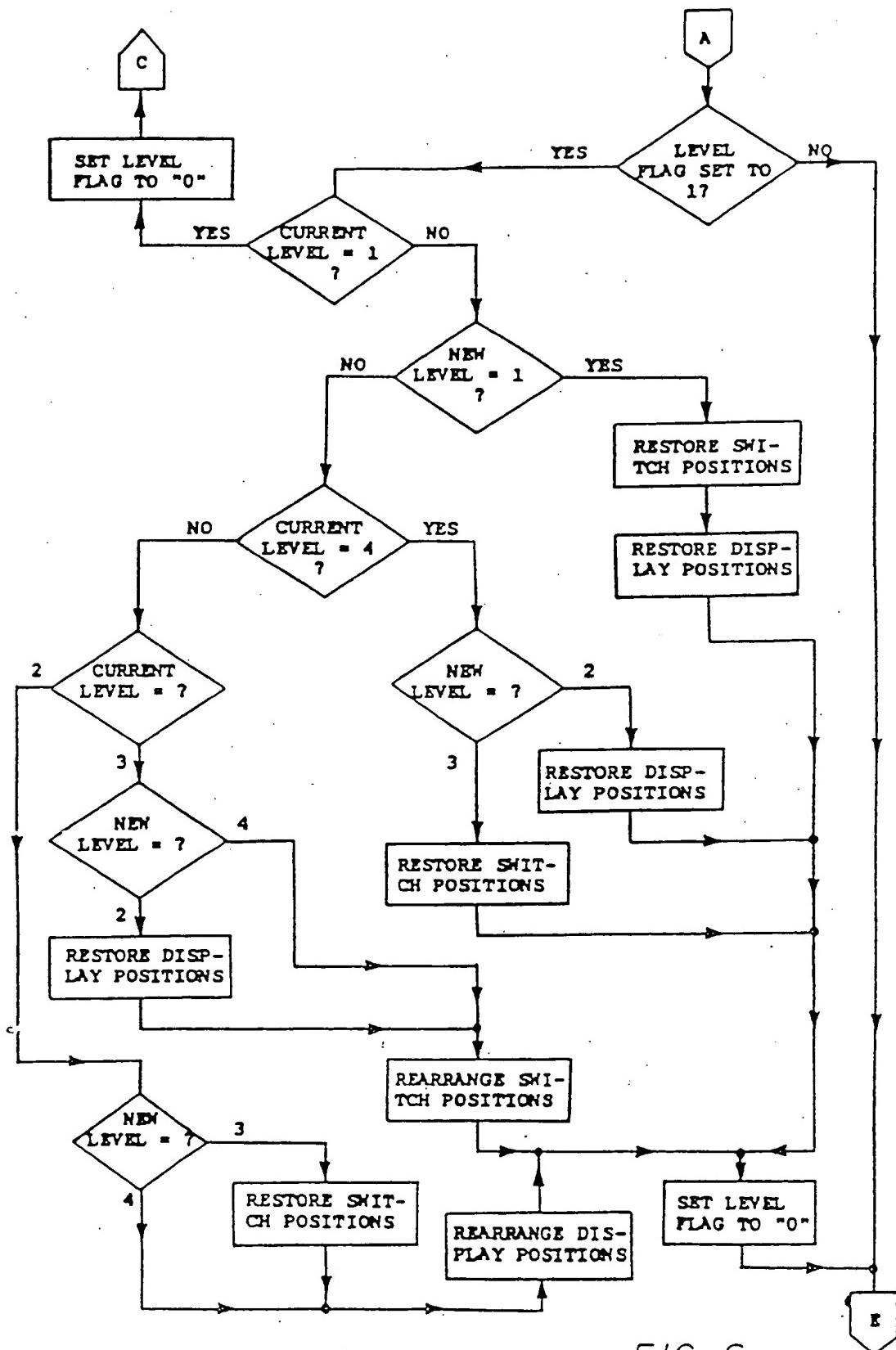


FIG. 6

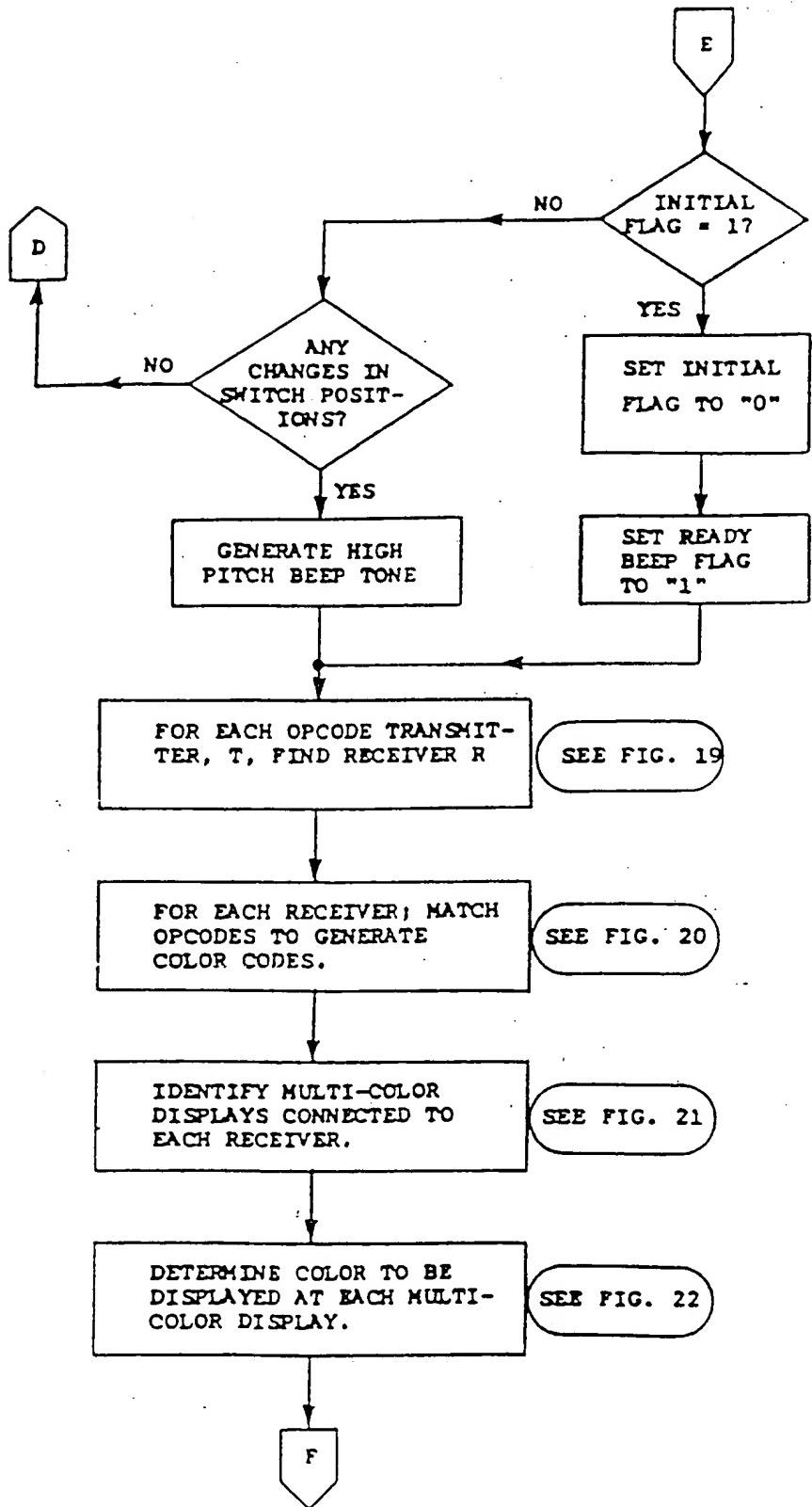


FIG. 7

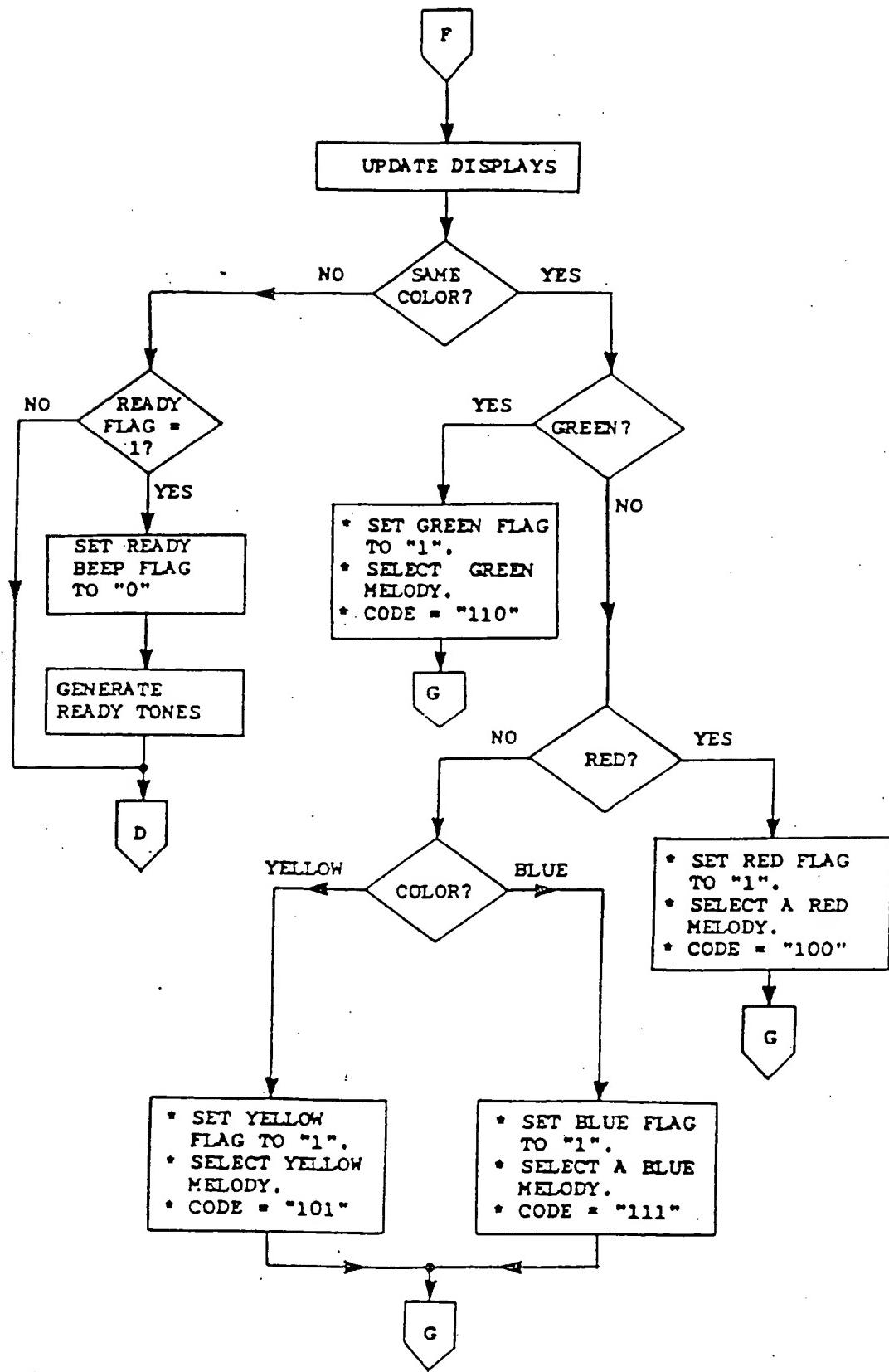


FIG. 8

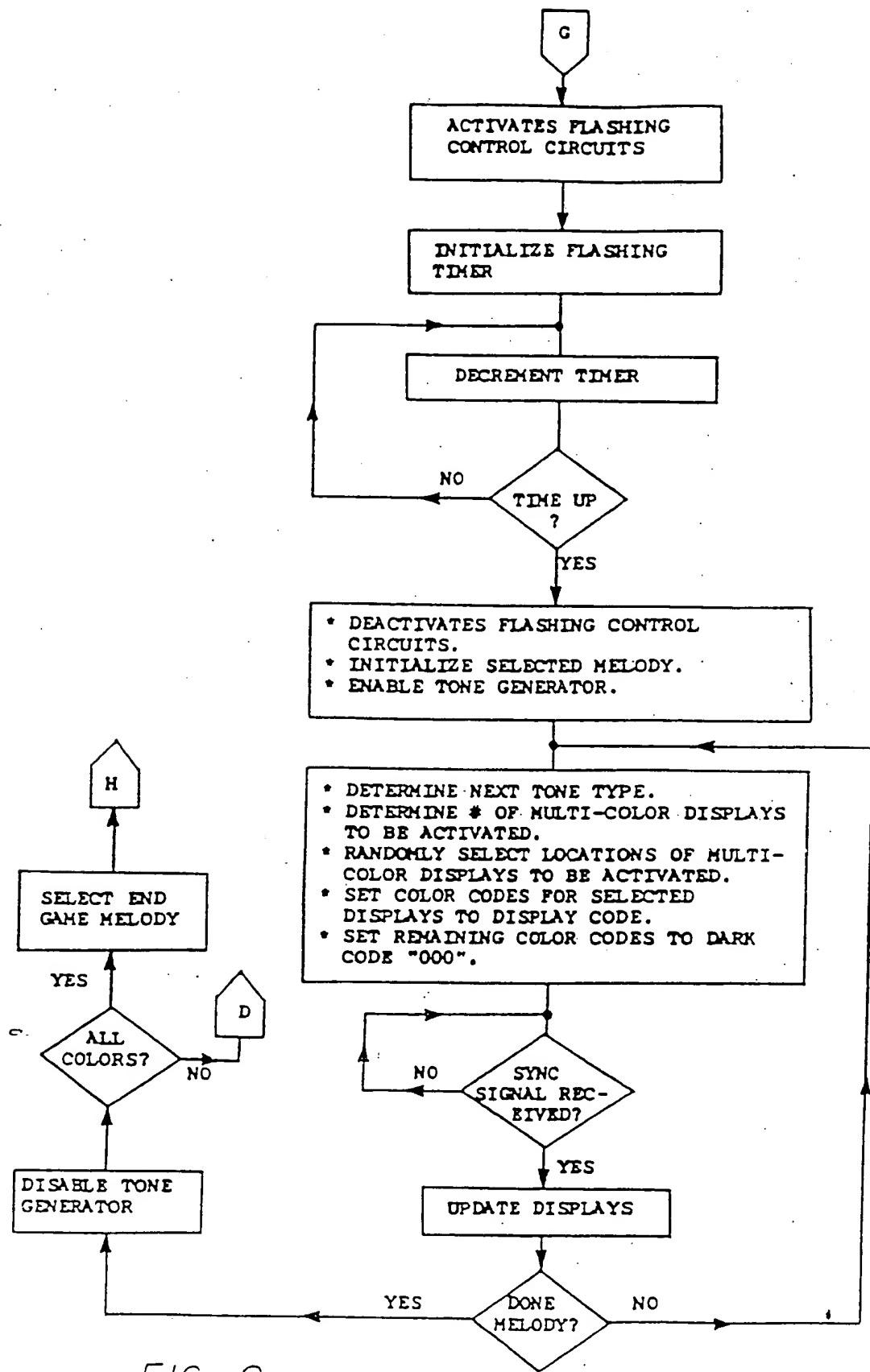


FIG. 9

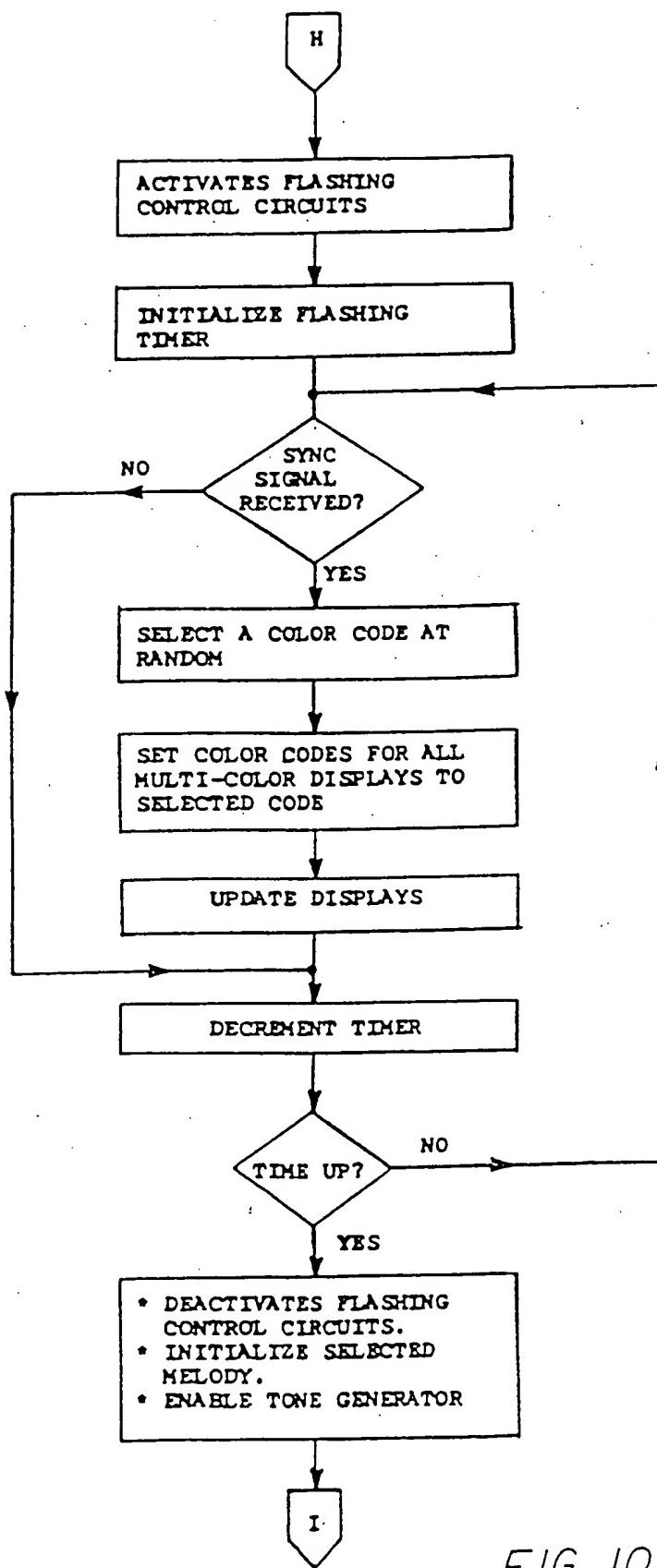


FIG. 10

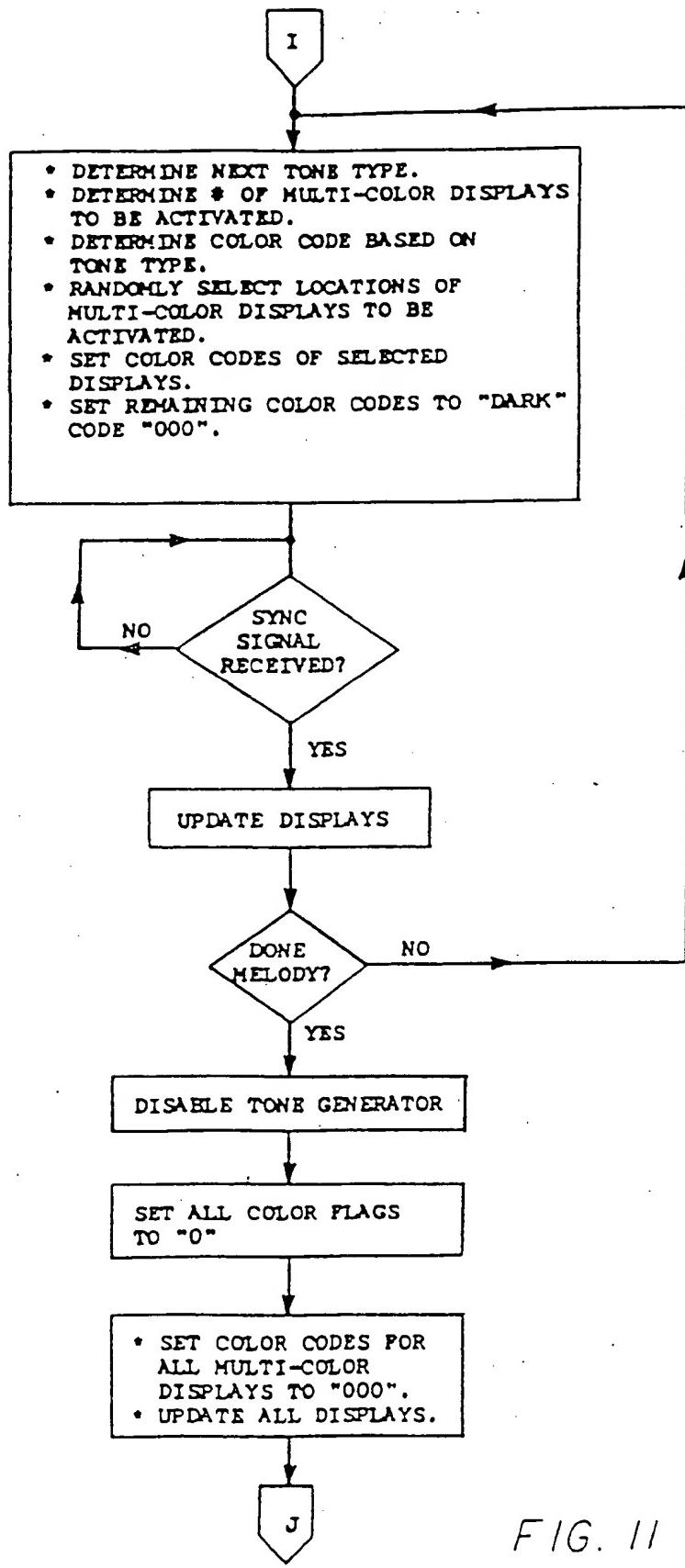


FIG. II

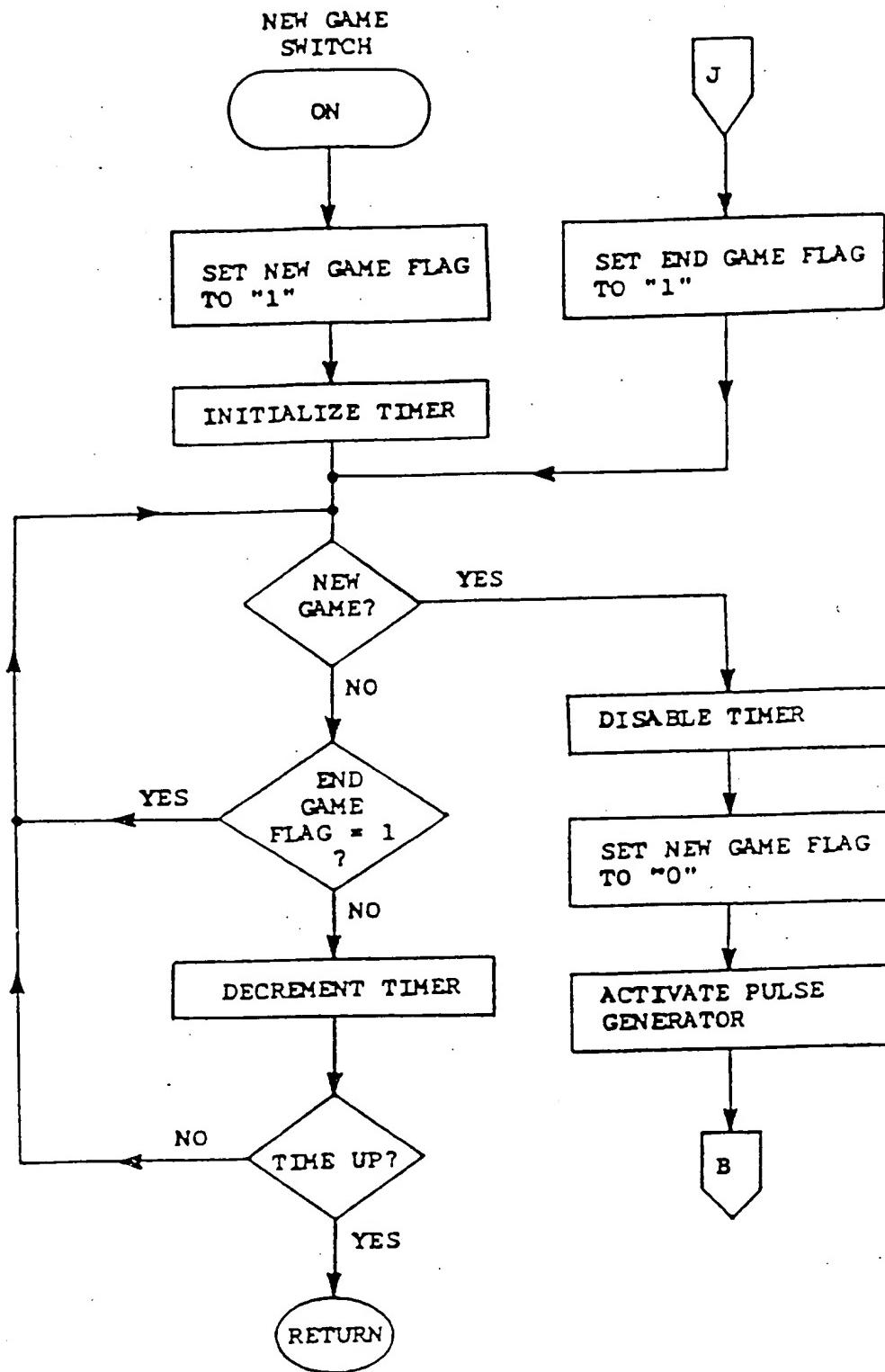


FIG. 12

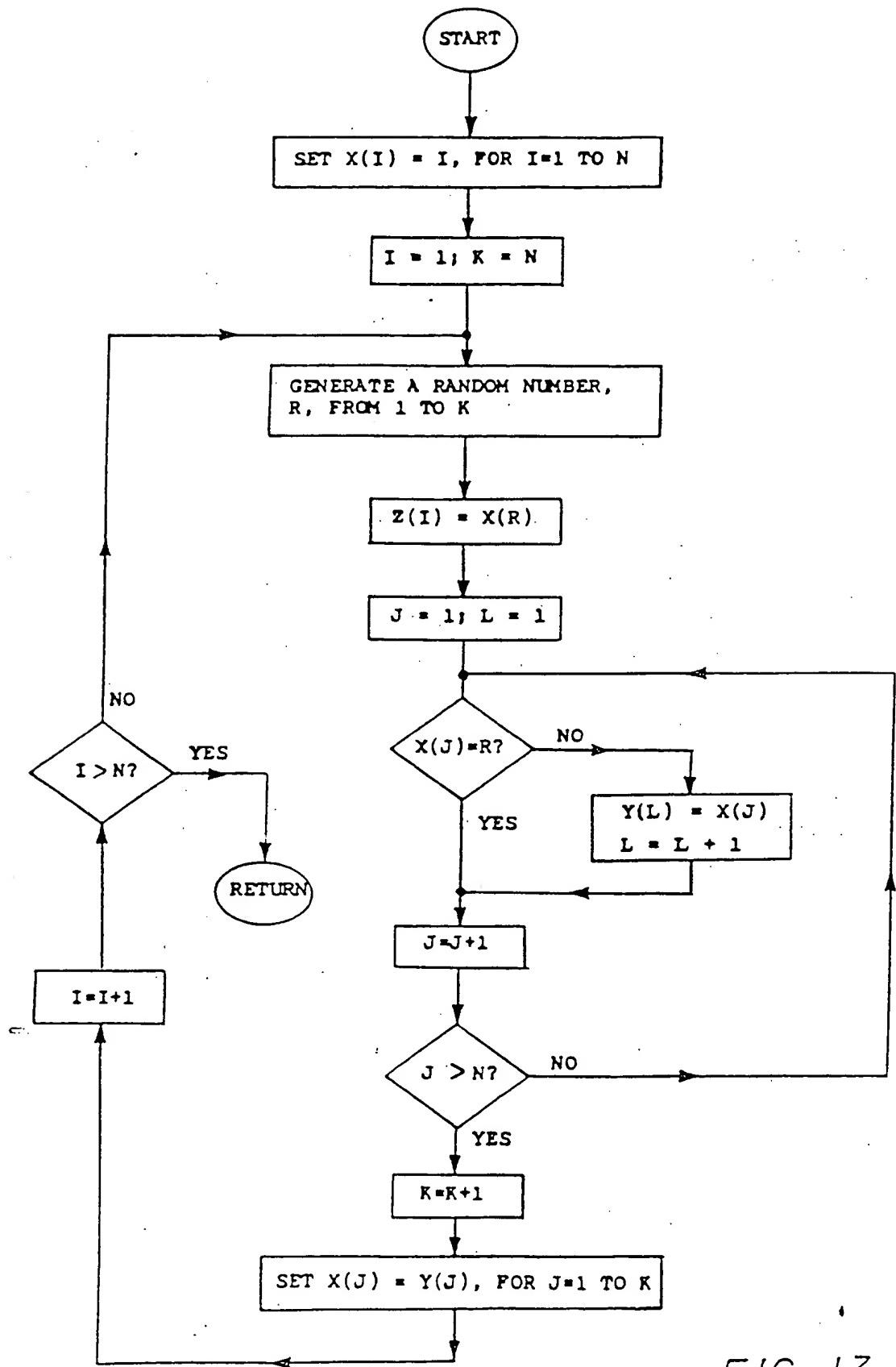


FIG. 13

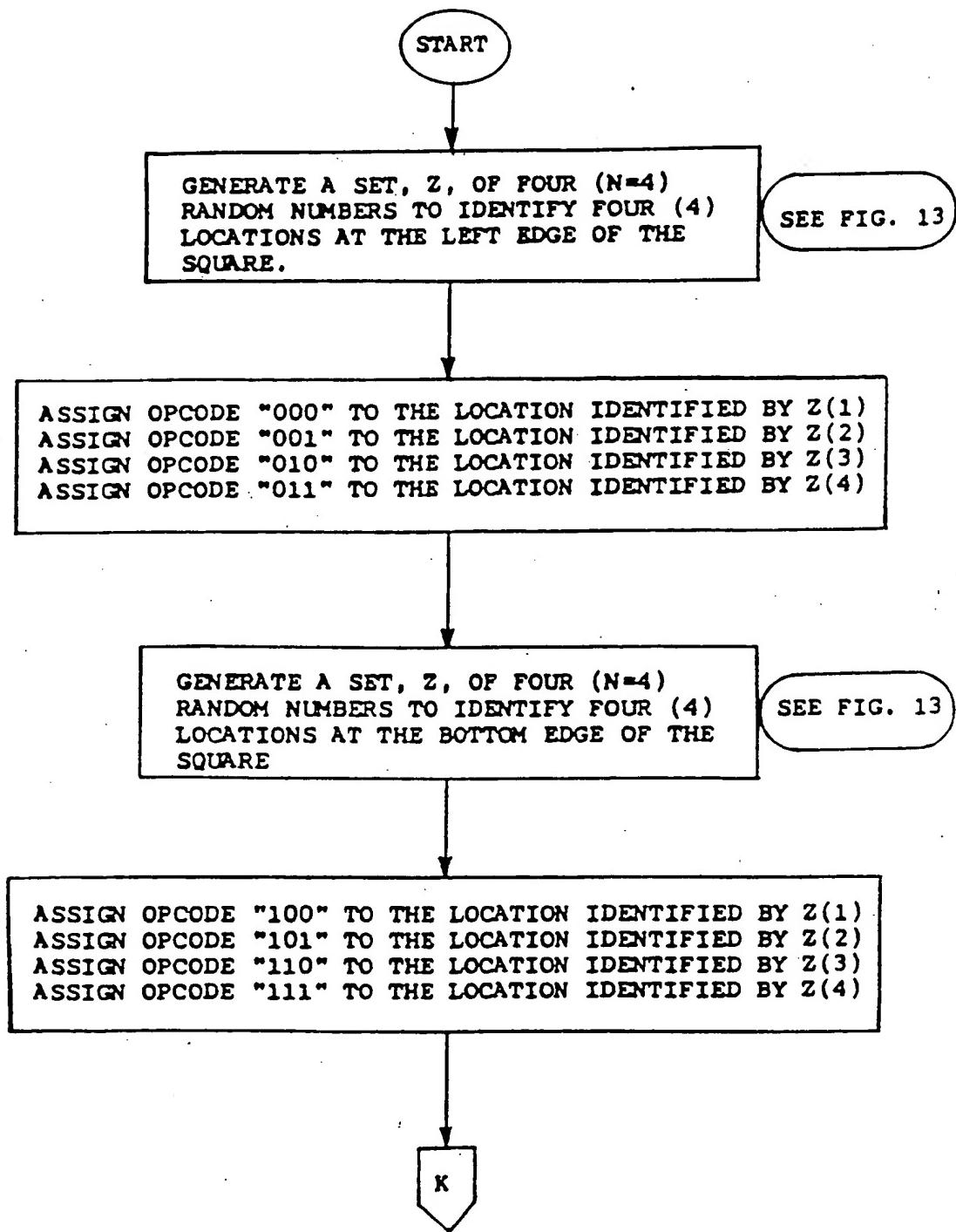


FIG. 14

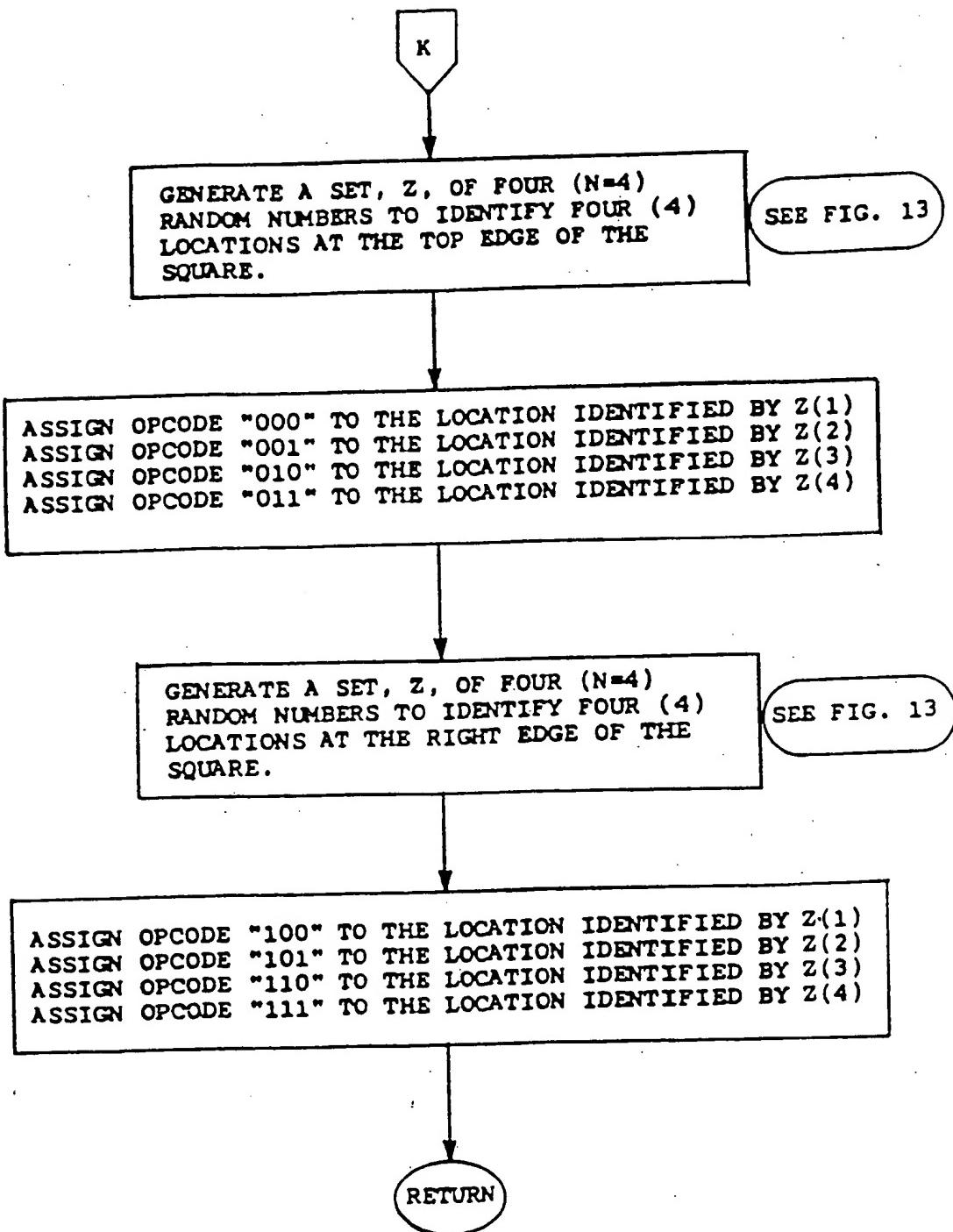
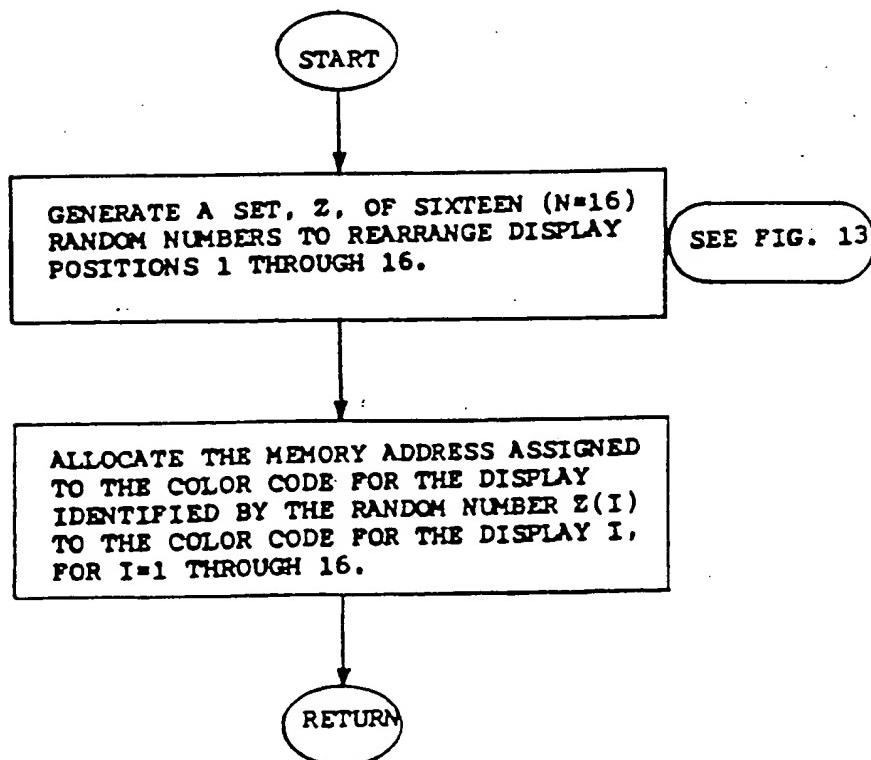
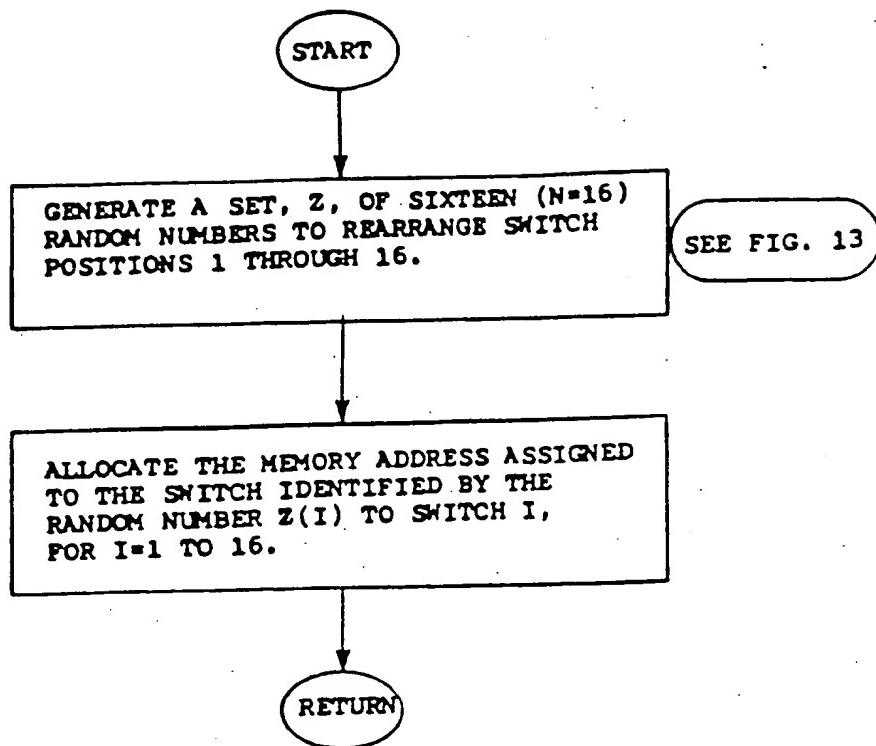


FIG. 15



REPLACEMENT SHEET

LEGEND

- N : DIMENSION OF LOGIC GAME = NUMBER OF PREDETERMINED
COLORS WHICH MAY BE DISPLAYED, (EXCLUDED REFLECTED
COLOR WHEN DISPLAY IS DARK)
= 4 (FOR THE PREFERRED EMBODIMENT)
- n : NUMBER OF BINARY BITS IN OPCODE AND COLOR CODE
= $\ln N + 1 = 3$ (FOR THE PREFERRED EMBODIMENT)
- I : ROW NUMBER I, I = 1, ..., N
- J : COLUMN NUMBER J, J = 1, ..., N
- DIR : ROUTE DIRECTION BETWEEN TWO ADJACENT ROUTING SQUARES;
"R" DENOTES RIGHT
"U" DENOTES UP
"L" DENOTES LEFT
"D" DENOTES DOWN
- T : OPCODE TRANSMITTER; T = 1, ..., 2N
- R : OPCODE RECEIVER; R = 1, ..., 2N
- RC(T) : RECEIVER CONNECTED TO TRANSMITTER "T"
- TC(R) : TRANSMITTER CONNECTED TO RECEIVER "R"
- W(I,J) : STATUS OF SWITCH LOCATED AT ROW "I" AND COLUMN "J," OR
STATUS OF ROUTING SQUARE AT ROW "I" AND COLUMN "J"
- TCODE(T) : OPCODE AT TRANSMITTER "T"
- RCODE(R) : OPCODE AT RECEIVER "R"
- C(R) : COLOR CODE AT RECEIVER "R"
- x(i) : THE ith BIT OF OPCODE "X"
- y(i) : THE ith BIT OF OPCODE "Y"
- cb(i) : THE ith BIT OF COLOR CODE "C"
- C1(I,J) : COLOR CODE AT THE RIGHT EDGE OF THE ROUTING SQUARE
LOCATED AT ROW "I" AND COLUMN "J"
- C2(I,J) : COLOR CODE AT THE TOP EDGE OF THE ROUTING SQUARE
LOCATED AT ROW "I" AND COLUMN "J"
- C(I,J) : COLOR CODE SELECTED FOR DISPLAY AT THE ROUTING SQUARE
LOCATED AT ROW "I" AND COLUMN "J"
- ⊕ : EXCLUSIVE OR BOOLEAN FUNCTION
- ⊖ : EXCLUSIVE NOR BOOLEAN FUNCTION

EXPLANATION OF PROGRAM VARIABLES OF FIGS. 19 - 22

FIG. - 18 -

NOTE:

- * SEE FIGURE 18 FOR EXPLANATION OF PROGRAM VARIABLES.

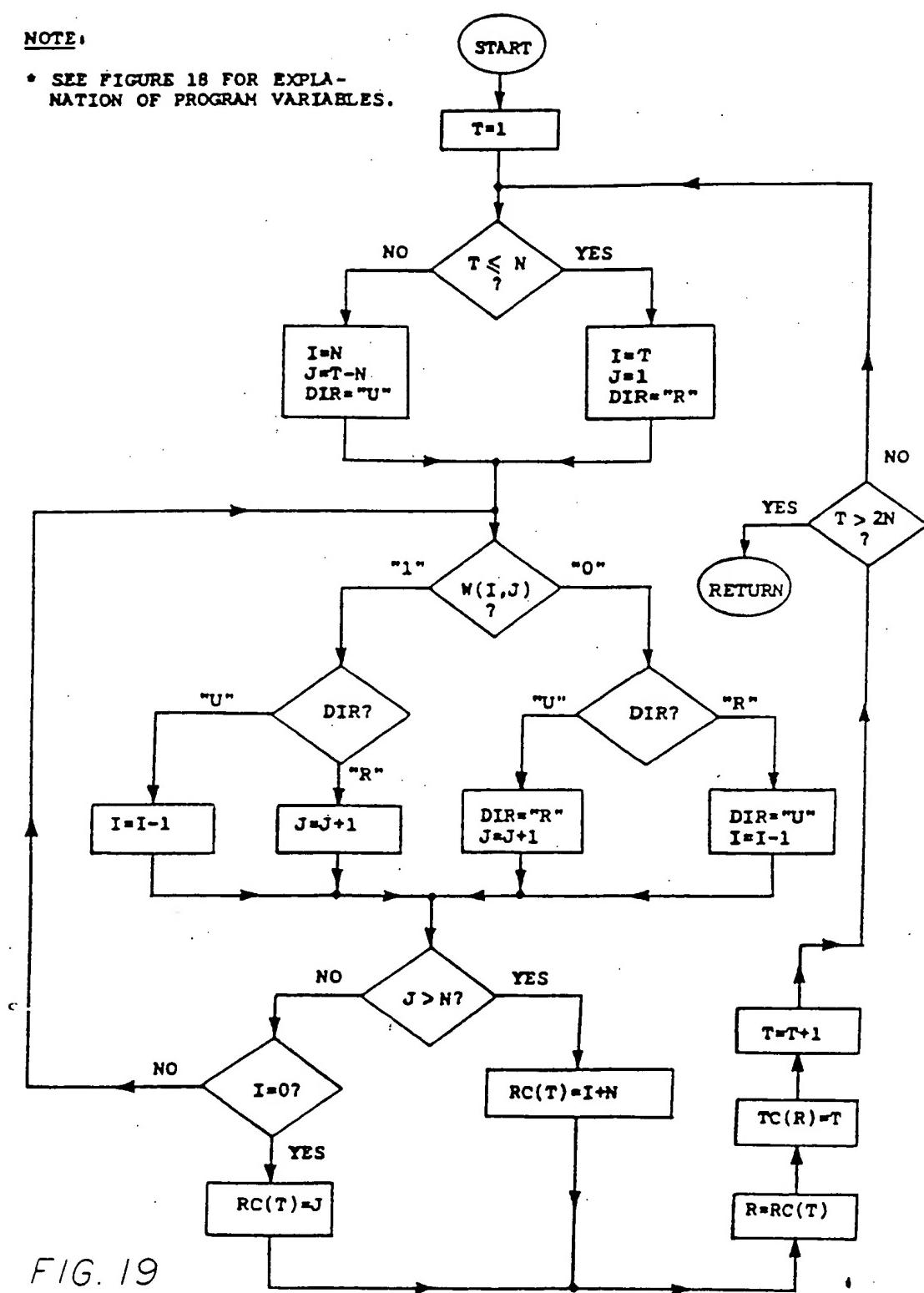
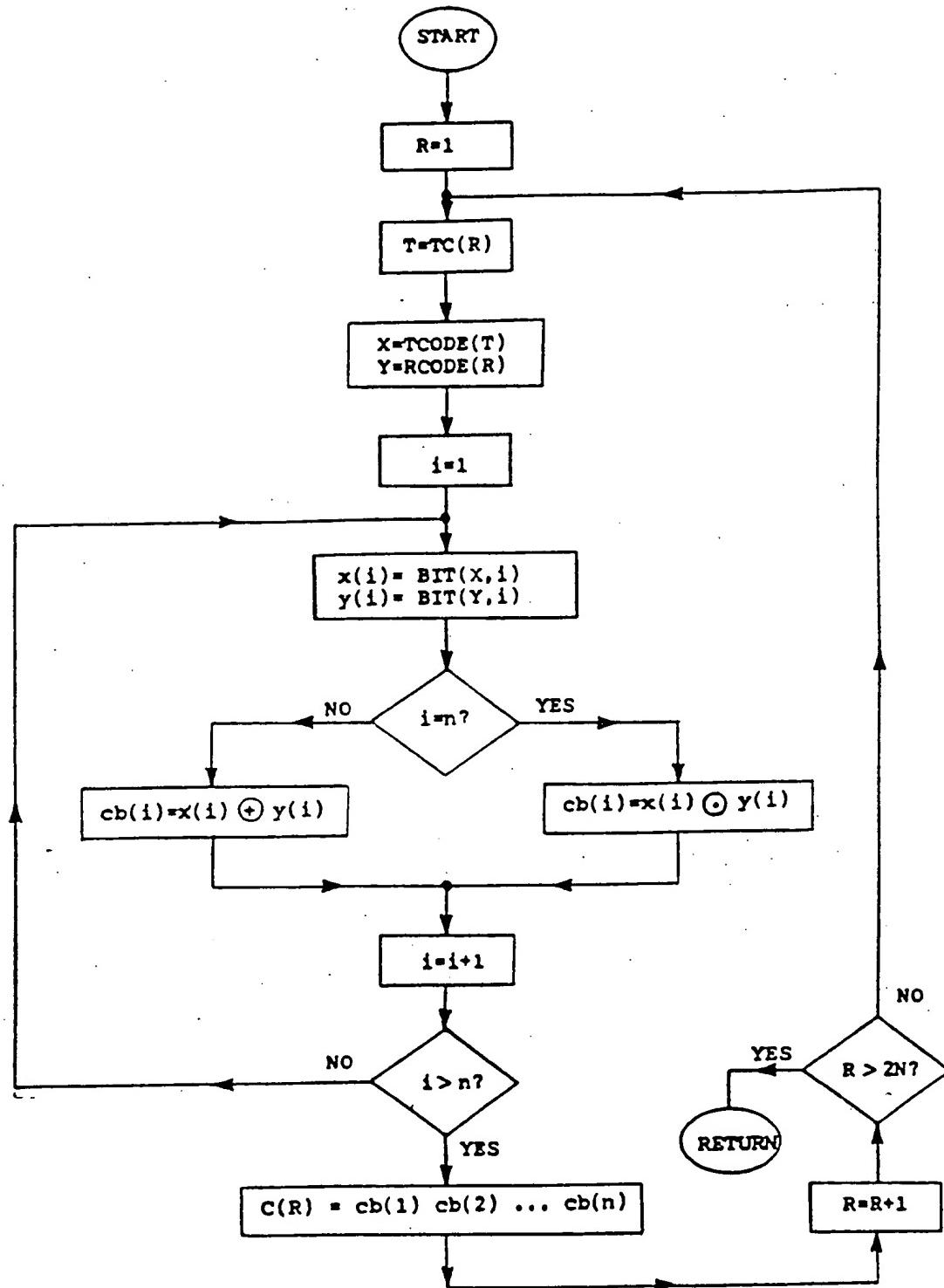


FIG. 19



NOTE:

* SEE FIGURE 18 FOR EXPLANATION
OF PROGRAM VARIABLES.

FIG. 20

NOTE:

- SEE FIGURE 18 FOR EXPLANATION OF PROGRAM VARIABLES.

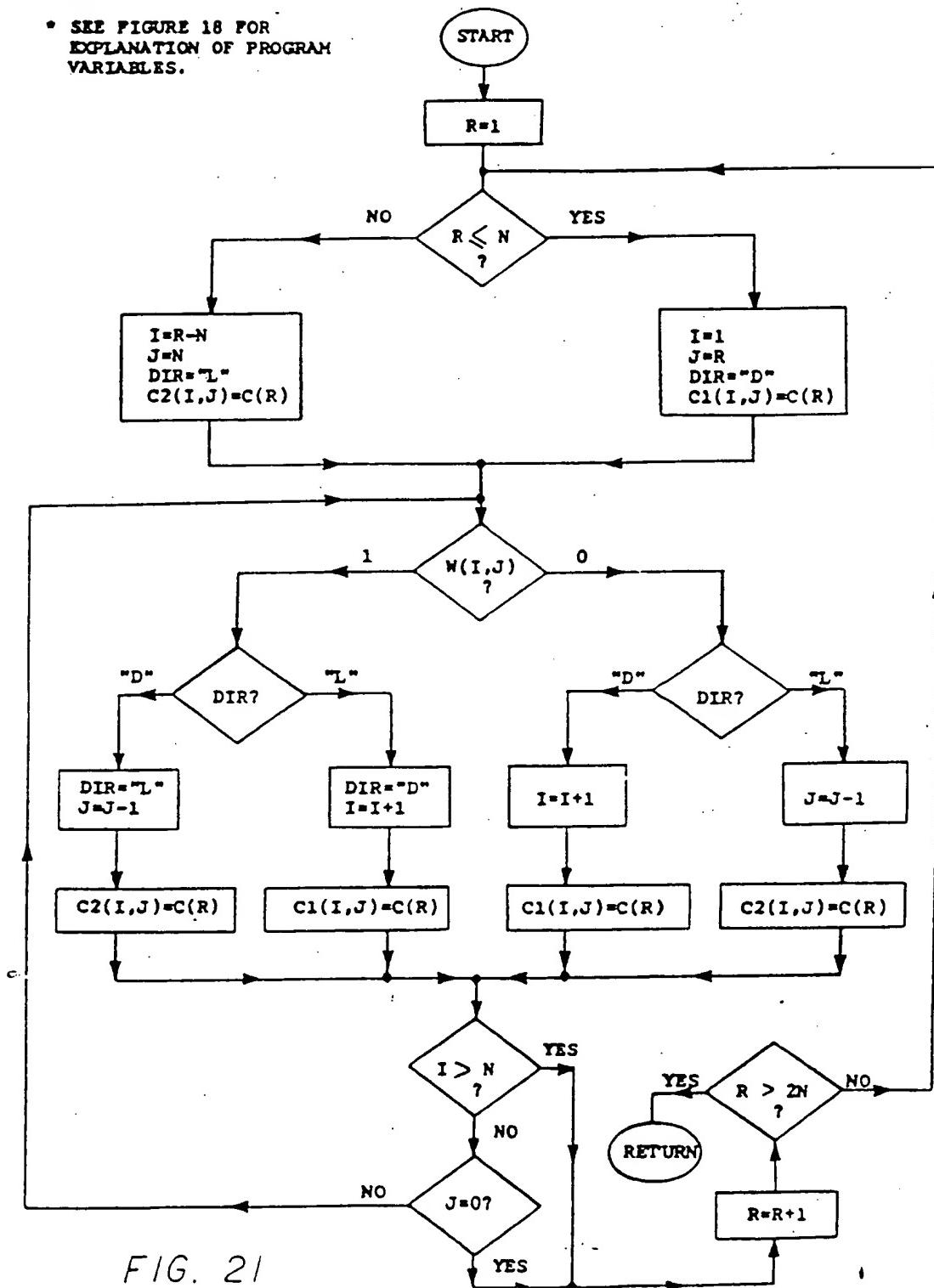
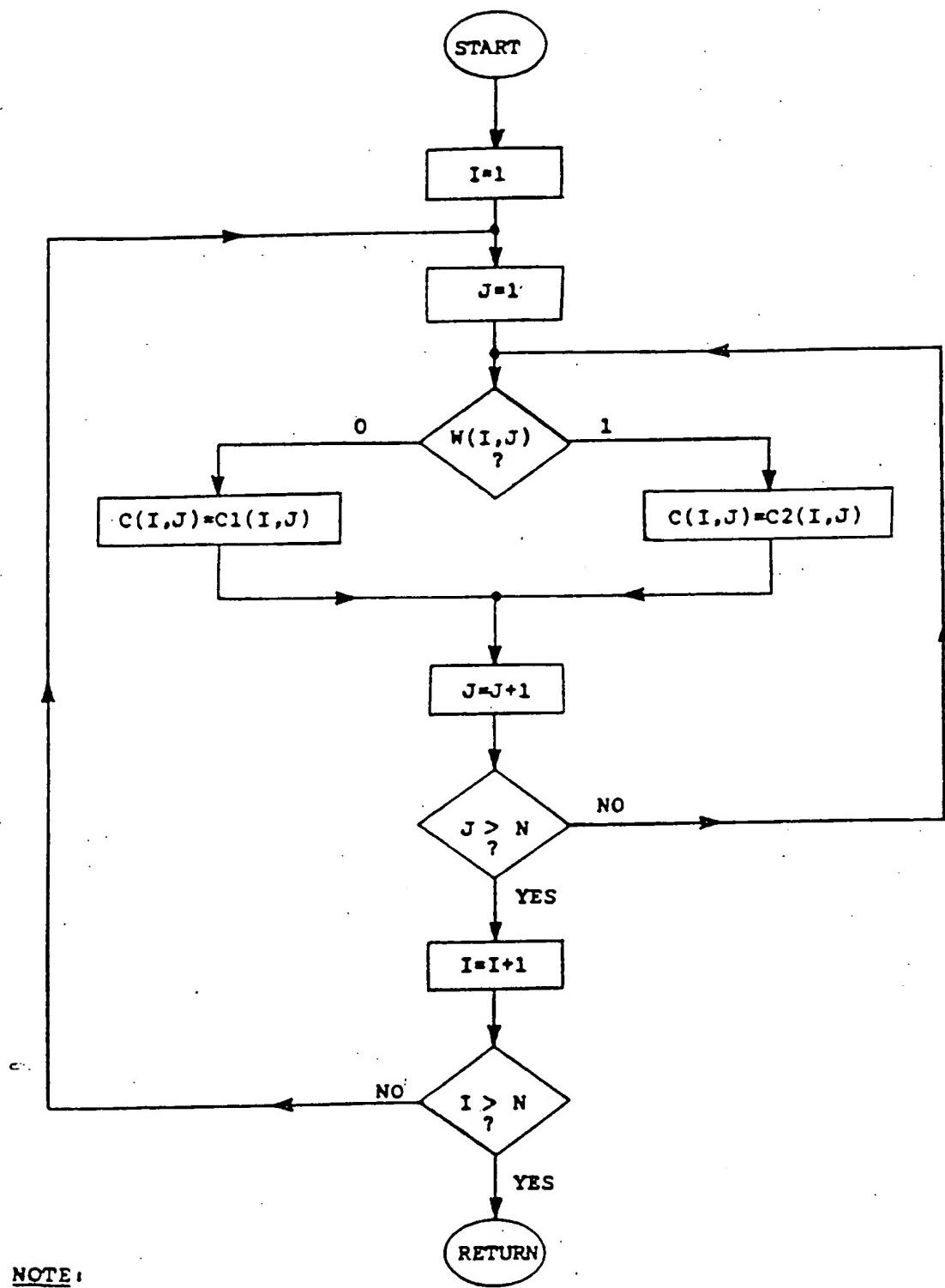


FIG. 21



NOTE:

* SEE FIGURE 18 FOR EXPLANATION
OF PROGRAM VARIABLES.

FIG. 22

REPLACEMENT SHEET

OPCODE	0 0 0	0 0 1	0 1 0	0 1 1	1 0 0	1 0 1	1 1 0	1 1 1
0 0 0	[Hatched]	[Hatched]	[Hatched]	[Hatched]				
0 0 1	[Cross-hatched]	[Hatched]	[Hatched]	[Hatched]				
0 1 0	[Hatched]	[Hatched]	[Hatched]	[Hatched]				
0 1 1	[Hatched]	[Hatched]	[Hatched]	[Hatched]				
1 0 0					[Hatched]	[Cross-hatched]	[Hatched]	[Hatched]
1 0 1					[Cross-hatched]	[Hatched]	[Hatched]	[Hatched]
1 1 0					[Hatched]	[Hatched]	[Hatched]	[Hatched]
1 1 1					[Hatched]	[Hatched]	[Hatched]	[Hatched]

COLOR CODE	1 0 0	1 0 1	1 1 0	1 1 1	0 --
COLOR	[Hatched]	[Cross-hatched]	[Hatched]	[Hatched]	

COLOR ASSIGNMENT FOR N = 4

FIG. - 23 -

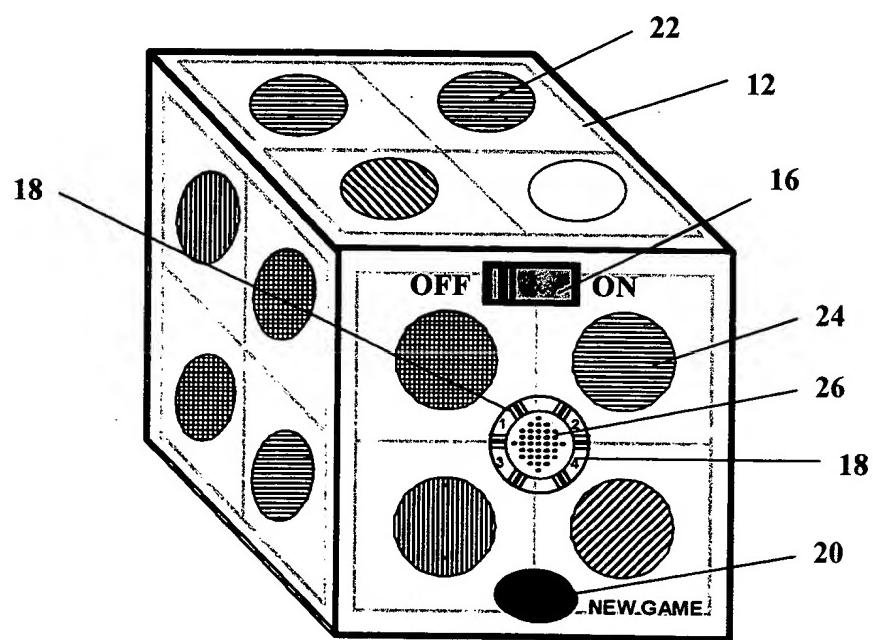
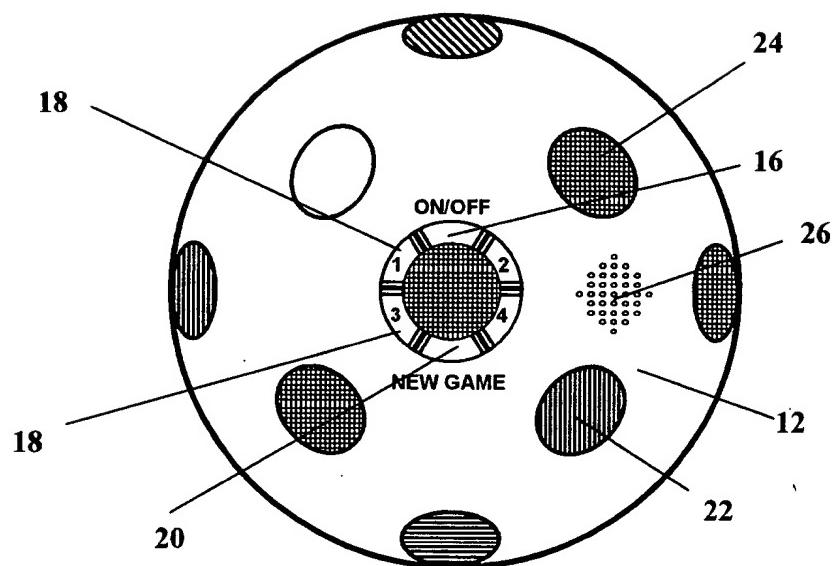
REPLACEMENT SHEET

COLOR CODE	1000	1001	1010	1011	1100	1101	1110	1111	0—
COLOR									

COLOR ASSIGNMENT FOR N = 8

FIG. - 24 -

NEW SHEET



MAPPING OF INDICATORS ON 3 DIMENSIONAL CONFIGURATION

FIG. - 25 -

NEW SHEET

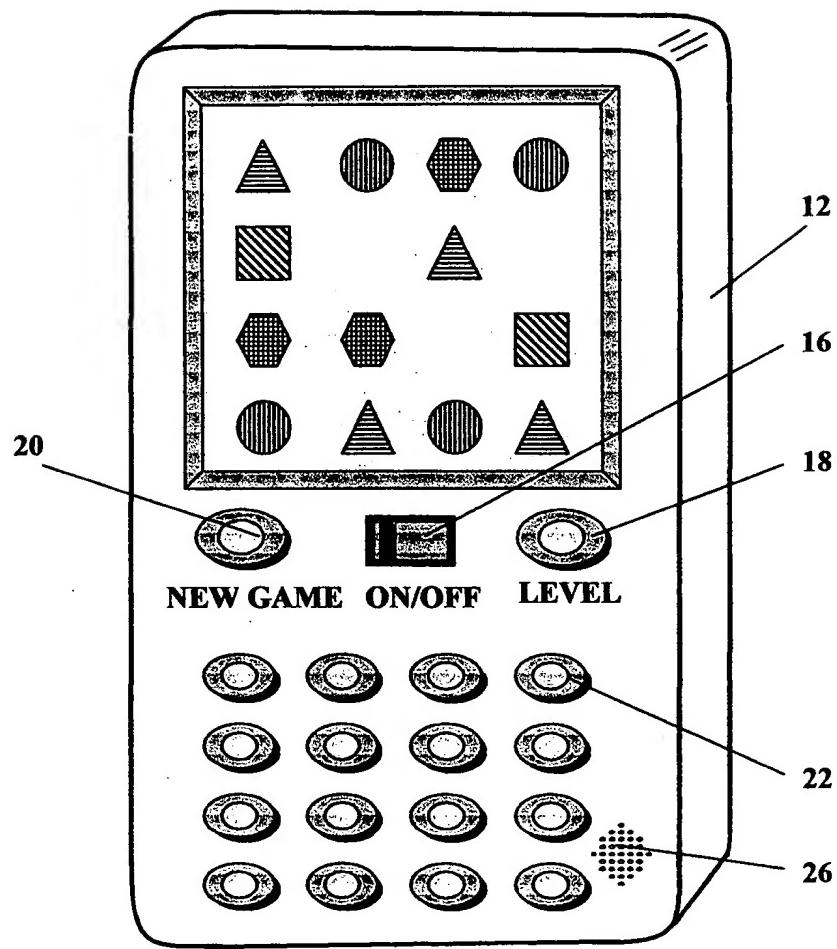
OPCODE	0 0 0	0 0 1	0 1 0	0 1 1	1 0 0	1 0 1	1 1 0	1 1 1
0 0 0								
0 0 1								
0 1 0								
0 1 1								
1 0 0								
1 0 1								
1 1 0								
1 1 1								

COLOR CODE	1 0 0	1 0 1	1 1 0	1 1 1	0 --
COLOR					

COLOR ASSIGNMENT FOR N = 4
(Color codes assigned to 2 colors)

FIG. - 26 -

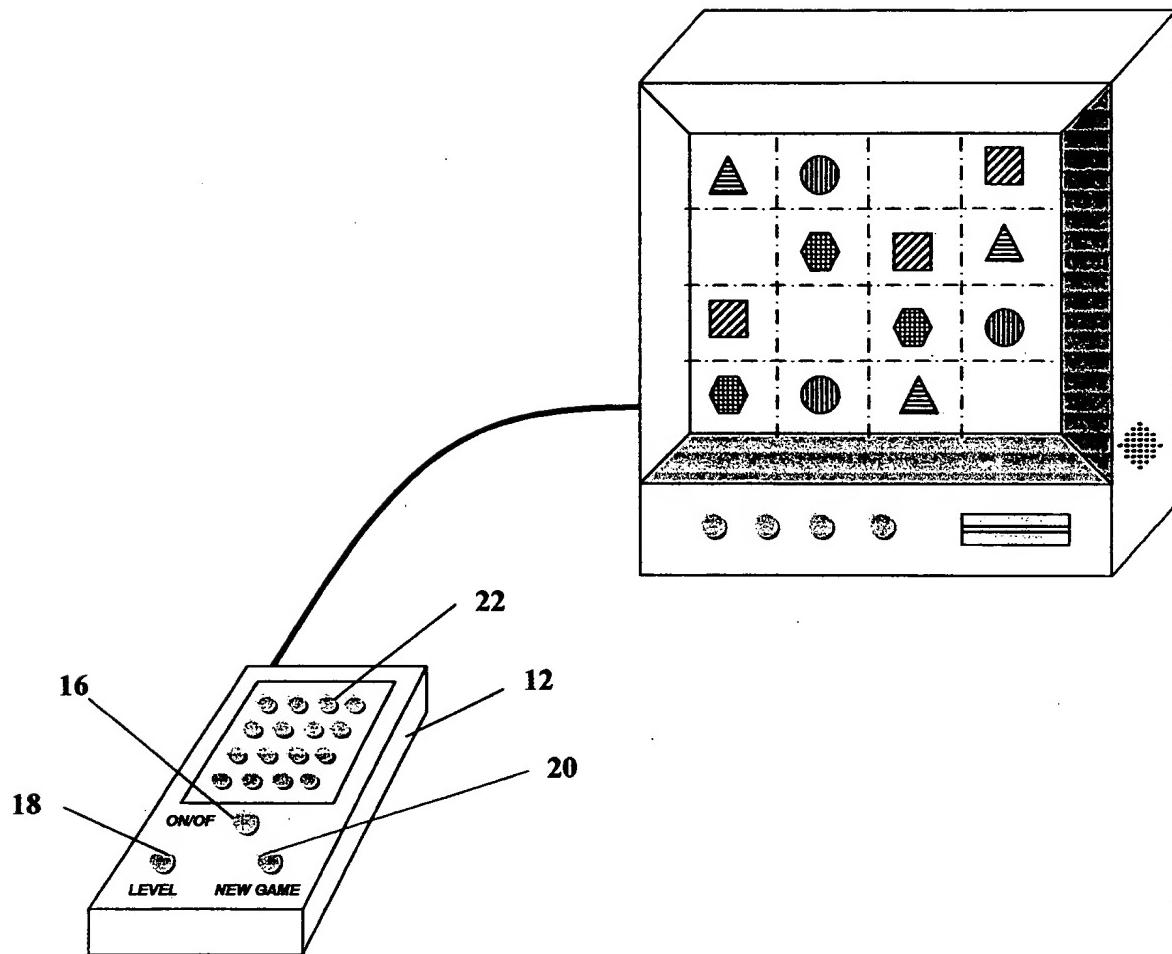
NEW SHEET



ALTERNATE EMBODIMENT USING LCD SCREEN

FIG. - 27 -

NEW SHEET



CONNECTION TO VIDEO MONITOR

FIG. - 28 -

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